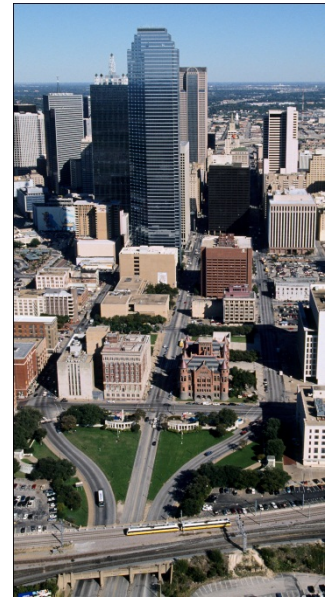


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Through Recession and Recovery: Economic and Fiscal Impacts of Capital and Operating Spending by Dallas Area Rapid Transit

Prepared for
Dallas Area Rapid Transit



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1. Introduction

The Dallas-Fort Worth Metropolitan Area enjoys a diversified economy with several key industries, important institutions, and the presence of economy-boosting infrastructure. These factors help to explain why the North Texas economy proved to be more resilient to the vicissitudes of the recession of 2008-2009 than many other U.S. major metropolitan areas. One of the most visible and important of these factors is Dallas Area Rapid Transit (DART), which serves as both a service-providing institution and builder of key transportation infrastructure. In previous studies, the Center for Economic Development and Research has documented the substantial economic, fiscal, and developmental impacts of capital spending and operations of DART. In the following, we update our previous analyses and call attention to the economic and fiscal impacts of DART spending during the period of time leading up to the recession and subsequent extended recovery.



The U.S. economy entered its longest economic downturn since the Great Depression in the last quarter of 2007 and did not see consistent economic growth again for 19 months (July 2009). Since then the economy has seen uneven, mostly slow growth with the unemployment rate remaining above 7 percent and total jobs count still below pre-recession peaks (see Figure 1 and Figure 2).

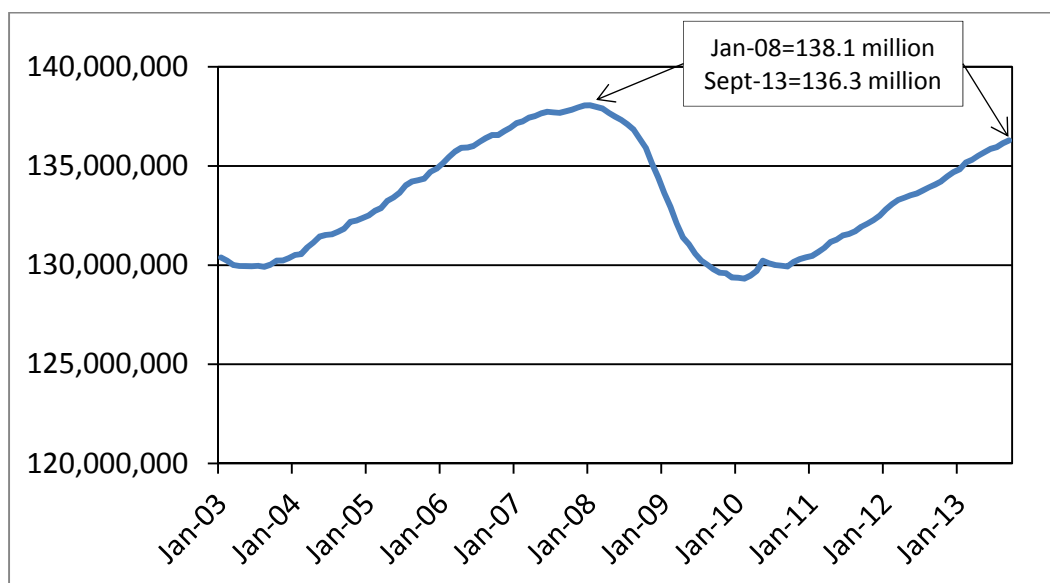


Figure 1. U.S. Jobs 2003-2013
Note: Most recent data for Sept. 2013.

The North Texas economy certainly felt the effects of the national recession, though the local area unemployment rate stayed below national averages during the downturn. As shown in Figure 2, the unemployment rate for the Dallas-Fort Worth Metropolitan Area stayed about one

percentage point to two percentage points below the national average during the recession and subsequent recovery.

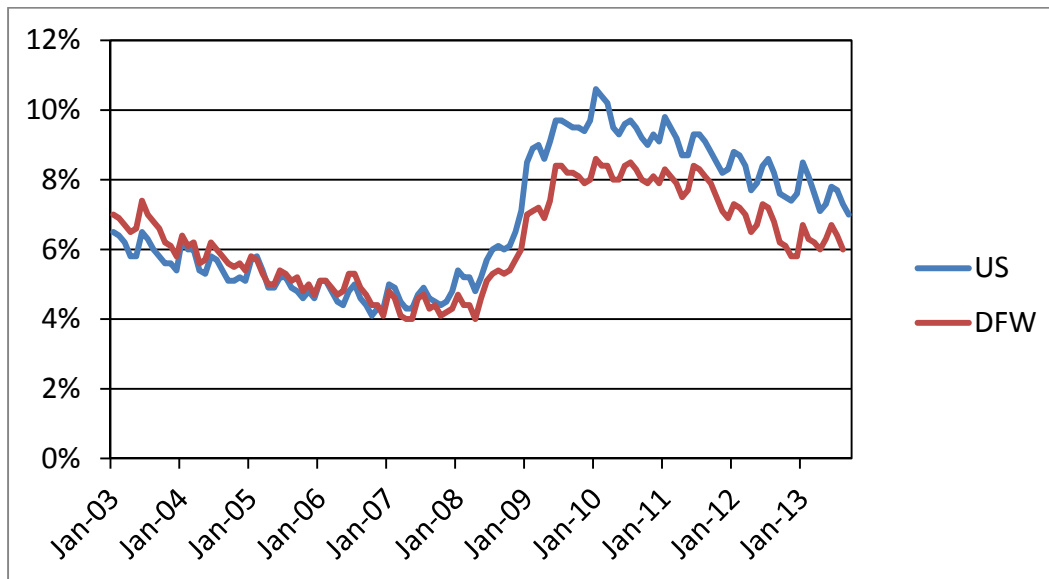


Figure 2. Monthly U.S. and DFW Unemployment Rates, 2003 – 2013

Note: U.S. data thru Sept. 2013; DFW data thru Aug. 2013.

Against this backdrop of economic growth, decline, and continuing recovery, Dallas Area Rapid Transit continued its long range expansion and capital improvement plans to enhance public transportation services supporting regional economic activity and increasing the livability of the Dallas area for a growing population. As a result of capital investments made by DART, North Texas is now home to the longest light rail transit system in the nation. (The developmental impacts of the DART Light Rail System will be explored in a companion report to this study.) The capital spending associated with DART's expansion program and recurring system operating expenditures generate economic activity and support thousands of regional jobs.



To assess the economic and fiscal impacts of spending by DART, we employ the IMPLAN economic input-output model developed by MIG, Inc. Input-output models estimate how spending flows through an economy and are based on data from the Economic Census conducted by the Census Bureau, Bureau of Labor Statistics, and the Bureau of Economic Analysis. The IMPLAN model is widely used in academic and professional research. The spending by an organization creates direct, indirect, and induced impacts.

Direct impacts relate to the value of DART spending, whether it is capital or operations spending, for supplies, materials, services, and labor. For example, in a light rail station construction project, DART's direct spending could include hiring a construction contractor.

Indirect impacts capture associated upstream spending such as the construction contractor purchasing materials or hiring an accounting service. Indirect impacts also include subsequent rounds of spending such as the accounting service purchasing office supplies, renting office space, and hiring a janitorial service, which in turn purchases cleaning supplies. Induced impacts capture the effects of employees of all of these firms spending a portion of their earnings in the regional economy for goods and services. At each round of impacts, the model adjusts for spending that leaves the region. For example, diesel fuel purchased by the construction contractor for dirt-moving equipment is not produced in the Dallas-Fort Worth Metropolitan Area; therefore, only a small portion of the price of the diesel fuel accounting for local sales and distribution expenses are captured as impacting the regional economy.

The IMPLAN model provides estimates of economic activity, labor income, employment, and indirect business taxes. Economic activity, sometimes referred to as “output,” is essentially a measure of the value of transactions (spending). Labor income includes salaries, wages, and benefits paid to employees plus proprietors’ income. Employment is the number of headcount jobs created by the spending. If the reported spending occurs over multiple years, such as development of the Orange Line, employment is expressed as person-years of employment. A person-year of employment is one job lasting for one year. Tax revenues are indirect property taxes; sales taxes; fees, licenses, and permits; and other sources of government revenues associated with indirect and induced spending. Direct spending by DART is tax-exempt.

In the following sections, we describe the assumptions, analysis, and findings of our examination of the impacts of capital and operating spending by DART. The final section offers our conclusions.

2. Economic Impacts of Capital Spending by DART

The past several years has seen a tremendous expansion of the DART Light Rail System along with additional spending to upgrade bus fleets and other system infrastructure. Most notably among the capital projects are expansions to the light rail system:

- Expansion of the Green Line (completed December 2010) to Buckner Station (Southeast) and North Carrollton/Frankford Station (Northwest)
- Expansion of the Blue Line to include a new station at Lake Highlands and rail service to downtown Rowlett (completed December 2012)
- Expansion of the Orange Line to Belt Line Station in Irving (December 2012) with direct connectivity to Dallas/Fort Worth International Airport coming in 2014.

Beginning in Fiscal Year (FY) 2003¹ through FY2013, capital spending by Dallas Area Rapid Transit was almost \$5.3 billion. In



¹ DART’s fiscal year runs from October through September. Fiscal Year 2003 would be October 2002 through September 2003. All spending is reported as fiscal years.

estimating the impacts of this spending, we adjusted the dollar value by year for inflation. Expressed in 2013 dollars, total spending over this eleven-year period was \$4.7 billion. This spending generated over \$7.4 billion in regional economic activity creating over 54,000 person-years of employment that paid in excess of \$3.3 billion in salaries, wages, and benefits (see Table 1). Spillover spending and economic activity generated \$236 million in revenue for state and local taxing jurisdictions for sales and use taxes, property taxes, fees for licenses and permits, and other government revenue.

Table 1.
Economic and Fiscal Impacts of Capital Spending by DART
FY2003 through FY2013
(2013\$)

Description	Impact
Capital Spending	\$ 5,283,718,000
Capital Spending (adjusted for inflation)	\$ 4,719,824,000
Output	\$ 7,447,165,000
Labor Income	\$ 3,310,057,000
Employment (person-years) [†]	54,229
State and Local Indirect Business Taxes [‡]	\$ 236,107,000

[†] Person years of employment. A person year of employment is one worker working for one year. It should not be interpreted as permanent employment for each individual. Actual employment levels will vary from year to year. [‡] Includes state and local sales and use taxes, property taxes, and license and permit fees. Sources: DART, IMPLAN, and authors' estimates.

Dallas Area Rapid Transit's current capital improvement program, impressive as it has been, is



not yet complete. In addition to the continuing work to extend the Orange Line to Dallas/Fort Worth International Airport, current plans includes expanding the Blue Line South Oak Cliff Corridor to the campus of the University of North Texas at Dallas scheduled for completion in late 2016. Extending the analysis time line to include future capital spending through FY2017, DART's capital improvement program will total over

\$5.6 billion, expressed in 2013 inflation-adjusted dollars. The impacts of this spending include boosting regional economic activity by almost \$8.8 billion, increasing area labor income by \$3.9 billion, and supporting over 63,700 person years employment – an average of about 4,250 jobs per year for 15 years (see Table 2). Total state and local government revenues associated with this spending will approach \$281 million.

Table 2.
Economic and Fiscal Impacts Past and Future Capital Spending by DART
FY 2003 through FY 2017
(2013\$)

Description	Impact
Capital Spending (adjusted for inflation)	\$ 5,631,607,000
Output	\$ 8,765,481,000
Labor Income	\$ 3,895,542,000
Employment (person-years) [†]	63,752
State and Local Indirect Business Taxes [‡]	\$ 280,714,000

[†] Person years of employment. A person year of employment is one worker working for one year. It should not be interpreted as permanent employment for each individual. Actual employment levels will vary from year to year. [‡] Includes state and local sales and use taxes, property taxes, and license and permit fees.

Sources: DART, IMPLAN, and authors' estimates.

While the impacts of DART's capital spending are very impressive and critically important to the region, they will cease once the current program ends. However, with each expansion of the DART System, recurring operating spending increases, creating a new stream of permanent impacts on the region. The following section examines the recurring impacts of DART operations.

3. Economic and Fiscal Impacts of DART Operations

The capital spending reported above has greatly expanded the scale of operations for the Dallas Area Rapid Transit System. To meet this increase in operations, more than 700 permanent staff have been added to DART's payroll between 2003 and 2013. In FY2013, DART's recurring operational spending totaled more than \$490 million. This spending generated almost \$750 million in annual regional economic activity and supported over 7,100 direct, indirect, and induced jobs (see Table 3). Total regional labor income associated with DART's operations is almost \$492 million per year. Local and state government entities received over \$31 million in recurring annual revenue resulting from DART-related operational activities.

Table 3.
Recurring Annual Economic and Fiscal Impacts of DART Operations
FY2013

Description	Impacts
Total Operating Expenditures	\$ 493,553,000
Economic Activity	\$ 749,255,000
Labor Income	\$ 491,977,000
Employment (jobs)	7,122
State and Local Indirect Business Taxes [‡]	\$ 31,150,000

[‡] Includes state and local sales and use taxes, property taxes, and license and permit fees.

Sources: DART, IMPLAN, and authors' estimates.

Examining the cumulative impacts of DART operations over the past several years we can better see the value this institution brings to the regional economy. From FY2003 through FY2013, DART's recurring operations have generated almost \$7.4 billion in economic activity supporting well over 70,000 person years of employment, and boosting regional labor income by \$4.7 billion (see Table 4). Total tax revenues paid to state and local entities over this period exceeded \$305 million.

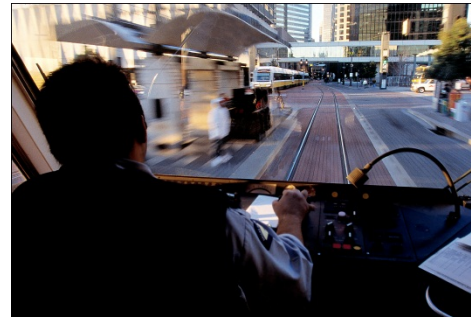


Table 4.
Recurring Economic and Fiscal Impacts of DART Operations
FY2003-FY2013

Description	Impacts
Economic Activity	\$ 7,393,655,000
Labor Income	\$ 4,720,615,000
Employment (person years of employment)	70,699
State and Local Indirect Business Taxes [‡]	\$ 305,081,000

[‡] Includes state and local sales and use taxes, property taxes, and license and permit fees.

Sources: DART, IMPLAN, and authors' estimates.

4. DART's Impacts in Recession and Recovery

As noted previously, though the North Texas economy did not fall as quickly or as far as the national economy during the 2008-2009 recession, we did see a significant downturn that had a dramatic effect on regional construction employment. Throughout the recession, which we equate with DART's spending in fiscal years FY2008 and FY2009, capital and operations spending provided a boost to the local economy. As a public agency with "shovel-ready" projects, DART was one of the relatively few North Texas entities able to obtain significant funding through the American Recovery and Reinvestment Act of 2009 program, totaling about \$61.5 million. Though this was a small piece of the DART capital improvement program, it did help keep the Orange Line expansion and other projects on target. Other federal funding of DART projects at this time included \$700 million in Federal Transit Administration Full-Funding Grant Agreement funds to support the development of the Green Line.² Combining the impacts of DART's capital and operations spending during the recession, we find that the North Texas economy enjoyed almost \$3.9 billion in economic activity that supported an average of about 15,700 jobs each year over this two-year period (see Table 5). In total, these jobs paid almost \$2 billion in salaries, wages, and benefits and contributed over \$126 million to state and local tax revenues.

² The FFGA funds were originally awarded in 2006, but were spread over several years of project development including the study period for this analysis.

Table 5.
Economic and Fiscal Impacts of DART Capital Spending & Operations
FY2008-FY2009

Description	Impacts
Economic Activity	\$ 3,895,215,000
Labor Income	\$ 1,980,298,000
Employment (person years of employment)	31,487
State and Local Indirect Business Taxes [‡]	\$ 126,586,000

[‡] Includes state and local sales and use taxes, property taxes, and license and permit fees.

Sources: DART, IMPLAN, and authors' estimates.



The recovery from the recession has been unusually protracted, but helping the regional economy through this slow recovery has been the consistent operating and capital spending by Dallas Area Rapid Transit. For purposes of this analysis, we define the recession recovery period for the North Texas economy to be through mid-summer 2012 when the local unemployment rate fell, and stayed, below 7.0 percent (still an elevated level by historic terms, but a rate that indicates improved economic conditions). The

corresponding spending cycle for DART extends the “recovery” period through FY2012, which ended in September of that year.

For the period FY2008 through FY2012, DART’s capital and operations spending generated almost \$8.8 billion in regional economic activity that supported almost 72,000 person years of employment, or an average of about 14,400 jobs each year (see Table 6). Total labor income in the form of salaries, wages, and benefits during this five-year period approached \$4.6 billion. State and local tax revenues increased by \$307.8 million.

Table 6.
Economic and Fiscal Impacts of DART Capital Spending & Operations
FY2008-FY2012

Description	Impacts
Economic Activity	\$ 8,765,684,000
Labor Income	\$ 4,594,135,000
Employment (jobs)	71,891
State and Local Indirect Business Taxes [‡]	\$ 307,815,000

[‡] Includes state and local sales and use taxes, property taxes, and license and permit fees.

Sources: DART, IMPLAN, and authors' estimates.

5. Conclusions

Dallas Area Rapid Transit continues to have a tremendous impact on the North Texas economy. Based on FY2013 data, DART’s recurring operations generates \$749 million in annual economic activity supporting over 7,100 permanent jobs that pay about \$492 million in salaries, wages, and

benefits. Importantly, these impacts will increase as DART's capital improvement program expands system capacity first by having a direct connection to Dallas/Fort Worth International Airport and later with new stations in southern Dallas including the campus of the University of North Texas at Dallas.

Since FY2003, DART's capital spending has exceeded \$5.3 billion generating almost \$7.5 billion in regional economic activity that created over 54,000 person-years of employment. Extending this time line to include capital spending from FY2003 through FY2017, total regional economic activity associated with DART's capital improvement program approaches \$8.8 billion, boosting labor income by about \$3.9 billion, and supporting an average of 4,250 jobs per year for this 15-year period.

During the 2008-2009 recession, Dallas Area Rapid Transit continued to support regional economic activity that helped lessen the severity of the economic downturn in North Texas. Including the regional economic recovery, which we count as lasting through DART's 2012 fiscal year, the agency's capital and operating spending combined to boost regional economic activity by over \$8.7 billion and supporting an average of 14,378 jobs each year – at a time when these jobs were needed most.

The economic and fiscal impacts of capital and operating spending by Dallas Area Rapid Transit are highly important to the Dallas-Fort Worth Metropolitan Area; however, these impacts are only part of the story. In companion reports to this study, we will examine the developmental impacts of DART's light rail system and how transit services contribute to DFW's emergence as a center of global commerce.

